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Education

B.S.	University of Texas at El Paso, 1978
M.S.	Stanford University, 1979
Ph.D.	Texas A&M University, 1983

Professional Experience

5/09 –	MacGuire Distinguished Professor of Mechanical Engineering
1/01 –	Professor of Mechanical Engineering, University of Texas at El Paso
1/11 – 8/13	Program Director, National Science Foundation, Division of Undergraduate Education
9/07 – 5/10	Chair Mechanical Engineering, Univ. of Texas at El Paso
1/03 – 5/08	Director, Institute of Manufacturing and Materials Management, University of Texas at El Paso
9/06 – 9/07	NASA Administrator's Fellow, Jet Propulsion Laboratory, Pasadena California
9/01 – 8/04	Chairman Mechanical and Industrial Engineering Department, University of Texas at El Paso
2/00 – 10/00	Acting Dean of Engineering, American University of Sharjah
8/99 – 12/00	Associate Dean of Engineering, American University of Sharjah
5/89 – 1/01	Associate Professor, Mechanical Engineering Department, Texas A&M University
9/91 – 6/92	NASA JSC, Houston Texas, Robotics and Automation Division
8/83 – 5/89	Assistant Professor, Mechanical Engineering Department, Texas A&M University
6/85 – 9/85	Visiting Scholar, IBM Inc., Austin, Texas, Entry Systems Division, Robot Programming Methods
1/81 – 8/83	Lecturer, Mechanical Engineering Department, Texas A&M University
6/78 – 12/80	Bell Telephone Laboratories, Design of Automated Testing Equipment and Electrical Connectors

Consulting Experience

5/04 –	American Eagle Brick, PLC Automation of a Brick Manufacturing Plant
8/98 –	Micro Therm Inc. Microprocessor Control of the Temperature of a Moving Fluid.
5/06	Expert Testimony Regarding Patent Litigation
8/04 – 5/06	Washington State University, Advisor for "Transferable Assessments for Capstone Engineering Design", an NSF funded project.
1/04 – 3/04	Steve Bryant and Associates, Attorney, Expert Opinion Regarding Patent Litigation
5/97 – 12/97	Schlumberger Well Services, Houston Texas, Mechanism Design.
3/96	Bryan Plastics, Feasibility Study of a Spray Painting Robot.
3/94	Supported NASA's STS-62 TRAC Flight Experiment
3/93 – 7/93	ERIM/Space Automation & Robotics Consortium, Satellite Tracking and Rendezvous Software.
5/84 – 9/84	R. T. Montgomery Inc., Bryan, Texas, A Computer Controlled Asphalt Weighing and Accounting Device
6/82 – 8/82	Surgikos, Inc., Dallas, Texas, Computer Simulation and Evaluation of Automation Schemes
5/81 – 7/81	Texas A&M University, Design of Computer Hardware Interfaces

Professional Registration: Texas, 58470

Honors and Awards

2007	Research and Sponsored Projects, Univ. Texas El Paso, "Outstanding Performance Award"
1997	Best Paper Award, ASEE Conference, "Dynamics As A Process, Helping Undergraduates Understand Design And Analysis Of Dynamic Systems"

- 1995 College of Engineering, Association of Former Students of Texas A&M Distinguished Teaching Award
1994 College of Engineering, Texas A&M, Lockheed Excellence in Engineering Teaching Award
1994 University Honors Program, Texas A&M University, Outstanding Undergraduate Fellows Thesis Advisor Award
1991 Mechanical Engineering Department, Texas A&M, Outstanding Undergraduate Teaching Award
1984 Mechanical Engineering Department, Texas A&M, J. George H. Thompson Faculty Award

Patents

- 2014 “Method and Apparatus for Automatically Controlling Aircraft Flight Control Trim Systems”, with M. L. Everett and M. Ruiz Jr., U.S. Patent No. 8718839, May 6, 2014.
2001 “Fluid Heating Control System”, with D. Seitz et. al., U. S. Patent No. 6,246,831, June 12, 2001.
1993 “An Orientation Independent Sensor for Measuring Positions of Bodies”, with Tsing Hsu, U. S. Patent No. 5177563, January 5, 1993.

Feature Articles

- “New Calibrator Puts Robots in Their Place”, Featured in Tech News, Mechanical Engineering, October 1991, pg. 12.
“From Isolation to Integration: One School’s Story”, Featured in Prism, September 1997, pg 26-27.
“Video-Based Active Alignment System - Reflected images of a flashing LED are used to align two objects”, Featured in NASA Tech Briefs, February 2000, pg. 7a.

Textbooks

- 2011 “Dynamics for Engineering Practice, Second Edition”, with A. Barhorst, m3P Engineering, ISBN: 978-0-9832672-0-1, <http://www.m3pengineering.com/m3pengineering.com/Publications.html>.
2004 “Dynamics for Engineering Practice”, with A. Barhorst, Custom Publication, McGraw-Hill
1998 “Understanding Engineering Systems: Conservation Principles and Computer Modeling”, with Lynn Bellamy. Updated version of “Understanding Engineering Systems...”
1996 “Understanding Engineering Systems Via Conservation Third Edition”, McGraw-Hill
1993 “Robot Calibration”, Chapter 3, Edited by R. Bernhardt and S. L. Albright, Chapman and Hall, London
1991 Contributor to “Fundamentals of Manipulator Calibration” by Mooring, Roth, and Driels, John Wiley
1988 Contributor to Chapter 5 of “Rotordynamics of Turbomachinery” by John M. Vance, John Wiley

Journal Publications:

1. William E. Dillon, George V. Kondraske, Louis J. Everett, and Richard A. Volz, [“Performance Theory Based Outcome Measurement in Engineering Education and Training.”](#) IEEE Transactions on Education, Vol. 43, no 2, 2000, pg 92-99.
2. Everett, Louis J., P. K. Imbrie and Jim Morgan, “Integrated Curricula: Purpose and Design”, ASEE Journal of Engineering Education, Vol. 89, #2, April 2000, pp. 167-176.
3. Everett, L. J. and Ravuri, R. and Volz, R. and Skubic, M. [“Generalized Recognition of Single Ended Contact Formations”](#), IEEE Transaction on Robotics and Automation, Vol. 15, No. 5, October 1999 pp. 829-836.
4. Everett, L. J. and Richard Alexander and Michael Wienen, [“A Grading Method That Promotes Competency And Values Broadly Talented Students.”](#) ASEE Journal on Engineering Education, Vol. 88 #4, October 1999, pp. 477-484.
5. Everett, L. J., Jennchen Tang, and Marc Compere, [“Designing Flexible Manipulators With The Lowest Natural Frequency Nearly Independent Of Position”](#), IEEE Transactions on Robotics and Automation, Vol. 15, No. 4, Aug. 1999, pp. 605-611.
6. Everett, Louis J. “Optimal Two Plane Balance Of Rigid Rotors,” Journal of Sound and Vibration, Vol 208, #4, December 1997, pp. 656-663.
7. Everett, Louis J. “Using Maple to Balance Multiplane Rigid Rotors”, MapleTech, Vol 3, No. 3, Winter 1996, pp. 30-37.
8. Everett, L. J., and T. Ives, [“A Sensor Used For Measurements In The Calibration Of Production Robots”](#), IEEE Transactions on Robotics and Automation, Vol 12, No. 1, February 1996, pp. 121-125.
9. Barhorst, A. A. and L. J. Everett, “Contact/Impact in Hybrid Parameter Multiple Body Mechanical Systems”, ASME Journal of Dynamic Systems, Measurement and Control, Vol 117, No. 4, December 1995, pp. 559-569.
10. Everett, L. J., and T. Ives, [“Automatic Maintenance Of Robot Programs”](#), IEEE Transactions on Robotics and Automation, Vol 11, No. 4, August 1995, pp. 603-606.

11. Everett, L. J., and James Lei, "Improved Manipulator Performance Through Local D-H Calibration", Journal of Robotic Systems, Vol. 12, No. 7, July 1995, pp. 505-514.
12. Barhorst, A. A. and Everett, L. J., "Modeling Hybrid Parameter Multiple Body Systems: A Different Approach", International Journal of Nonlinear Mechanics, Vol. 30, No. 1, 1995, pp. 1-21.
13. Everett, L. J., and L. Ong, "Closed Form Solution for the Sensor Registration Problem Using Only Position Information", Journal of Robotic Systems, Vol. 11, No. 8, December, 1994, pp. 717-724.
14. Everett, L. J., James C. Colson and Benjamin W. Mooring, "[Automatic Singularity Avoidance Using Joint Variations in Robot Task Modification](#)", IEEE Robotics and Automation Magazine, Vol. 1, No. 3, September, 1994, pp 13-19.
15. Everett, L. J., and R. Redfield, "[A Robust Automated Alignment Concept For Robotics](#)", IEEE Transactions on Robotics and Automation, August, 1994, pp. 530-534.
16. Everett, L. J., "Forward Calibration of Closed-Loop Jointed Manipulators", International Journal of Robotics Research, August 1989, Vol. 8 no. 4, pp. 85-91.
17. Everett, L. J., "Completing the Forward Kinematic Calibration of Open Loop Manipulators When Single Point Sensors are Used", Journal of Robotic Systems, February 1989, vol. 6 no. 1 pp. 19-34.
18. Everett, L. J., "An Alternative Algebra for Deriving Equations of Motion of Manipulators", Journal of Robotic Systems, December 1988, pp. 553-566.
19. Everett, L. J., Hsu, T., "[The Theory of Kinematic Parameter Identification for Industrial Robots](#)", ASME Journal of Dynamic Systems, Measurement and Control, March 1988.
20. Everett, L. J., "[Two Plane Balancing of a Rotor System Without Vibration Phase Measurements](#)", ASME Transactions, Journal of Vibration, Acoustics, Stress and Reliability in Design, April 1987, Vol. 109, pp. 162-167.
21. Everett, L. J., McDermott, M., "The Use of Vector Techniques in Variational Problems", ASME Transactions, Journal of Dynamic Systems, Measurement and Control, June 1986, pp. 141-145.

Conference Publications:

1. Pennathur, Arunkumar and Louis Everett, "Teaching Engineering: A Comparative Commentary on Analyzing Engineering Teaching as Complex Cognitive Work", ASEE Gulf Southwest Conference, 2009, Baylor.
2. Everett, Louis, "MSC Adams and Conceptual Understanding: Making Them Connect Through Design", MSC Developers Conference, April 2009, Phoenix Arizona. Available at: <http://www.mscsoftware.com/events/vpd2009/na/presentations.cfm>.
3. Everett, Louis, "Ethical Leadership: Applied Decision and Ethical Theories – Workshop Series for Undergraduates", ASEE Gulf Southwest Conference, 2009, Baylor.
4. Kephart, K., Elsa Villa, Louis Everett, Arunkumar Pennathur, "[Cultivating Authentic Engineering Discourse: Results of Faculty Development Efforts](#)", in ASEE Annual Conference. 2009, ASEE: Austin. p. 7.
5. Pennathur, Arunkumar, L. Everett, Teaching Engineering: A Comparative Commentary on Analyzing Engineering Teaching as Complex Cognitive Work, Paper 09-37, ASEE 2009, Austin Texas.
6. Pennathur, Arunkumar, L. Everett, "[Aligning Student Learning, Faculty Development And Engineering Content: A Framework For Strategic Planning Of Engineering Instruction And Assessment](#)", Paper AC 2008-1926, ASEE 2008, Pittsburgh, PA.
7. Everett, Louis, A. Pennathur, V. Jones, K. Kephart and E. Villa, "[Creating Learning Opportunities: Building Active Learning Problems to Create Conceptual Conflict for Enduring Understanding](#)", Workshop in Proceedings of the 2007 Frontiers in Education (FIE) Conference, Milwaukee, WI.
8. Pennathur, Arun, L. Everett, B. Tseng, N. Vargas-Hernandez, S. Riccillo, "[Work design for engineering education in a flat world](#)", 2008 ASEE Conference, Pittsburgh.
9. Everett, L., A. Pennathur, V. Jones, K. Kephart and E. Villa. "[Cultivating Authentic Discourse for the 2020 Engineer: Methodological Struggles and Successes](#)". In Proceedings of the 2008 ASEE NSF Grantees Session.
10. Everett, Louis J., "[Okay, I Got It: Using Simulation Software to Teach Fundamentals of Engineering](#)", PACE Annual Conference, Darmstadt Germany, 2007.
11. Everett, Louis J., and Arun Pennathur, "[A Design Process for Conceptual Based, Counter-Intuitive Problems](#)", 2007 ASEE Conference, Hawaii.

12. Everett, Louis J., and Arun Pennathur, "[Cultivating Authentic Engineering Discourse: Transitioning from an NSF CCLI Phase 1 to a Phase 2 Project](#)", 2007 ASEE Conference, Hawaii.
13. Everett, Louis J., Paul Racette, Scott Askew, Rafic Bachnak, Belay Demoz, and Paul Mogan, "[NASA Opportunities For Faculty at Minority Serving Institutions: Reflections Of NASA Administrator Fellows](#)", 2007 ASEE Conference, Hawaii.
14. Everett, Louis J., "[How MSC.Adams Impacted Students in a Sophomore Dynamics Class](#)", PACE Annual Conference, Provo UTAH, 2006.
15. Everett, Louis J., and Elsa Q. Villa, "[Assessment Results Of Multi-Intelligence Methods Used In Dynamics](#)", 2006 ASEE Conference, Session 1526, Chicago.
16. Everett, Louis J., "[A Preliminary Assessment Of An Msc.Adams Control Design Project In Undergraduate Mechanical Engineering](#)", 2006 ASEE Conference, Session 3666, Chicago.
17. Everett, Louis J., Arun Pennathur, and Elsa Q. Villa, "[The Effect Technology And A Structured Design Problem Has On Student Attitudes About Theory In A Dynamics Class](#)", 2006 ASEE Conference, Session 3568, Chicago.
18. Everett, Louis J., and Elsa Q. Villa, "Increasing Success in a Dynamics Course through Multi-Intelligence Methods and Peer Facilitation", 2005 ASEE Conference, Session 1526, Portland.
19. Everett, Louis J., Elsa Villa and Miguel Licona, "Learn to Distinguish Problems From Exercises and Experience a Problem-Based Lesson", SUN Conference on Teaching and Learning, UTEP, 2005, presentation only.
20. Everett, Louis J. and Marc Compere, "[A New Robot Design to Passively Damp Flexible Robotic Arms](#)", IASTED International Conference on Robotics and Manufacturing, May 21-24, 2001, Cancun, Mexico, Paper 334-022.
21. Reynolds, Craig and Everett, Louis J. "[Identifying the Pose Between a Head Mounted Display and a Head Pose Sensor](#)", Paper No. DETC2000/MECH-6704, in the 26th Biennial Mechanisms and Robotics Conference, September 10-13, 2000, Baltimore, Maryland.
22. Oneil, Robert and Everett, Louis J., "Finding Diversity in Mechanisms Using a Hybrid Genetic Algorithm", ASME Design Engineering Technical Conf. and Computers and Information Conf., Paper #DETC2000/MECH-14062, Aug 2000.
23. George V. Kondraske, Louis J. Everett, Robert Houser, Suhatha Kashyap, Richard A. Volz and Heidi Mo Zhou, "A Quantifiable Assessment of Situational Awareness Using General System Performance Theory," International Training and Education Conference, Den Haag, The Netherlands, April, 2000.
24. Griffin, R.B., Everett, L.J., and Lagoudas, D., "Development of a Sophomore Year Engineering Program at Texas A&M University", FIE Oct. 97.
25. Everett, L. J., "[Dynamics As A Process, Helping Undergraduates Understand Design And Analysis Of Dynamic Systems](#)", 1997 ASEE National Conference, Wisconsin.
26. Everett, L. J. et. al., "Remote Viewing and Inspection of Radioactive Sites", ANS Seventh Topical Meeting on Robotics and Remote Systems, April 27- May 1, Augusta Georgia, 1997.
27. Everett, L. J., "Experience in the TAMU, Foundation Coalition Sophomore Curricula", 1996 ASEE National Conference, Washington D.C.
28. Everett, L. J., L. Ong and Scott Burnett, "[Experimentally Registering Position Sensors](#)", 1996 IEEE Robotics and Automation Conference, April 22-28, Minneapolis, 1996, pg. 641-647.
29. Everett, L.J., "Quantitatively Evaluating Engineering Curricula", 1996 ASEE Gulf Southwest Annual Meeting, March 27-29, San Antonio, pg 355-359.
30. Lagoudas, D. C., Griffin, R. B., Everett, L., Keating, P., and Parker, D., "The Implementation of a Sophomore Engineering Integrated Curriculum", 1996 ASEE Gulf Southwest Annual Meeting, March 27-29, San Antonio, pg 270-275.
31. Griffin, R.B., Everett, L.J., Keating, P., Lagoudas, D., Tebeaux, E., Parker, D., Bassichis, W., and David Barrow, "Planning the Texas A&M University College of Engineering Sophomore Year Integrated Curriculum," Fourth World Conference on Engineering Education, Oct. 95, St. Paul, MN, pp. 228-232, vol. 1.
32. Barrow, D., Bassichis, B., DeBlasie, D., Everett, L., Imbrie, P., and Whiteacre, M., "An Integrated Freshman Engineering Curriculum, Why You Need It And How To Design It", FIE Conference, November 1-5, Atlanta, 1995, pg 3c1.7-3c1.10.
33. Lin, Cheng Y., Meng-Sang Chew, Jer-Nan Juang and Everett Louis J., "Identification for Manipulators with Joint Compliances and Link Deflections", 1994 ASME International Mechanism Conference, Minnesota, DE-Vol 72 Robotics: Kinematics, Dynamics and Controls, pp. 205 - 212, September 11-14, 1994.

34. Everett, L. J., “Calibrating a TRAC Sensor”, 5th International Symposium on Robotics and Manufacturing - ISRAM'94, Volume 1, Intelligent Automation and Soft Computing, pg 63-68, August 1994.
35. Lin, Cheng Y., Chew, Meng-Sang and Everett Louis J., “A Forward Transformation Algorithm for Robots with Joint Compliances and Link Deflections”, 1994 ASEE Southeastern Section Meeting, Greensboro, N.C., pp. 399 - 409, April 1994.
36. Everett, L. J. and L. Ong, “[Determining Essential Parameters for Calibration](#)”, 1993 ASME Winter Annual Meeting, Book No. DSC-Vol 49, pg 295-302, November 1993.
37. Everett, L. J. and L. Ong, “Closed Form Solutions for the Sensor Registration Problem Applicable to Position Sensors and Velocity Commanded Robots”, 1993 ASME Winter Annual Meeting, Book No. DSC-Vol 49, pg 287-294, November 1993.
38. Everett, L. J., James Colson, and Benjamin Mooring, “Consideration of Singularity Points in Automated Task Modification”, 1993 ASME Winter Annual Meeting, Published in Symposium on Mechatronics Booklet DSC-Vol 50 and PED-Vol 63, pg. 151-157, November 1993.
39. Everett, L. J. and T. Ives, “[A Sensor Used for Measurements in the Calibration of Production Robots](#)”, 1993 International Conference on Robotics and Automation, May 1993, pg 174-180.
40. Everett, L. J. and J. Colson, “[Automatic Reteach Of Manipulators For Manufacturing Multiple Product Lines](#)”, 1993 International Conference on Robotics and Automation, May 1993, pg 474-477.
41. Everett, L. J. “[Models For Diagnosing Robot Error Sources](#)”, 1993 International Conference on Robotics and Automation, May 1993, pg 155-160.
42. Everett, L. J. “[Understanding Engineering Via Conservation](#)”, Proceedings of Frontiers in Education, 22nd Annual Conference, IEEE ASEE, November 13, 1992, pg 614-619.
43. Barhorst, A. A. and Everett, L. J., “Contact/Impact in Hybrid Parameter Multiple Body Mechanical Systems”, ASME ETCE Conference, Vibrations & Dynamics Symposium, Jan, 1993, Houston TX, pg. 27-35.
44. Barhorst, A. A. and Everett, L. J., “Obtaining the Minimal Set of Hybrid Parameter Differential Equations for Mechanisms”, ASME Design Technical Conferences: Flexible Mechanisms, Dynamics, and Analysis, Phoenix AZ, September, 1992, pg. 311-316.
45. Barhorst, A. A. and Everett, L. J., “A Methodology for Modeling Hybrid Parameter Multiple Body Systems”, Proceedings of the ASME Symposium on Dynamics of Flexible Multibody Systems: Theory and Experiment, November 1992, Anaheim, CA, pp. 197-205.
46. Everett, L. J. and Leo Monford, “TRAC Based Sensing For Autonomous Rendezvous”, Automated Rendezvous and Capture Review, NASA, November 1991.
47. Everett, L. J. and Li Ong, “Solving the Generalized Sensor-Mount Registration Problem”, ASME Winter Annual Meeting, Atlanta, GA, DSC-Vol. 29, pp. 7-14, December 1991.
48. Bae, G., Fernandez, B. and L. J. Everett “Robust Impedance Control of Robot Manipulators”, ASME Winter Annual Meeting, November 1990.
49. Garrod, W. and L. J. Everett “A.S.A.P. Automated Sequential Assembly Planner”, ASME International Computers in Engineering Conference, Boston, August, 1990.
50. Pinto, V. H., Everett, L. J., and Driels, M. “Pose Estimation of a Pre-Grasped Object Using Local Sensors on a Dexterous Hand”, International Conference on CAD/CAM and Factories of the Future, December, 1990.
51. Everett, L. J. and Liang Eng Ong “A New Objective Function for Improving Kinematic Calibration of Manipulators”, Inter. Symp. on Measurement and Control in Robotics, NASA, Johnson Space Center, Houston, TX, pp. 33-39, June 1990.
52. Fernandez, Bae and Everett “Sliding Control of Robot Manipulators”, Inter. Symp. on Measurement and Control in Robotics, NASA, Johnson Space Center, Houston, TX, pp. 102-109, June 1990.
53. Everett, L. J. “Undergraduate Robotics Education in Mechanical Engineering at Texas A&M University”, ASEE Gulf-Southwest Annual Conference, Waco, TX, pp. 202-209, 1990.

54. Fernandez, B., Bae, G. and Everett, L., "[Control of Robot Manipulators Through Robust Sliding Linearization](#)", IEEE Conference on Robots and Automation, Cincinnati, OH, Vol. I, pp. 124-129, 1990.
55. Lin, C. Y. and Everett, L. J., "A Complete Kinematic Model for a Closed-Loop Constraint in Robot Calibration", 1989 ASME Winter Annual Meeting.
56. Everett, L. J., "[An Extension of Kane's Method For Deriving Equations of Motion of Flexible Manipulators](#)", 1989 Conference on Robotics and Automation, Vol 2, pp. 716-721.
57. Everett, L. J. and Suryohadiprojo, A. H., "[A Study of Kinematic Models for Forward Calibration of Manipulators](#)", 1988 IEEE Conference on Robotics and Automation, Vol 2, pg. 798-800.
58. Everett, L. J. and Lin, C. Y., "[Kinematic Calibration of Manipulators with Closed Loop Actuated Joints](#)", 1988 IEEE Conference on Robotics and Automation, Vol 2, pg. 792-797.
59. Everett, L. J., "A Two-Plane Extension of the Four Run Balancing Technique", 1987 ASME Vibrations Conference, September 27, 1987.
60. Everett, L. J., Driels, M. and Mooring, B. W., "[Kinematic Modeling for Robot Calibration](#)", IEEE International Conference on Robotics and Automation, 1987, Vol 1, pg. 183-189.
61. Everett, L. J. and McCarroll, D. R., "Using Finite Element Methods to Approximate Kinematic Solutions of Robot Manipulators When Closed Form Solutions Are Unobtainable", 1986 IEEE International Conference on Robotics and Automation, April 1986, Vol. 2, p. 1164.
62. Everett, L. J., McDermott, M., "The Use of Vector Mechanics in Variational Problems", ASME Winter Annual Meeting, 1985.
63. Hsu, T. W., Everett, L. J., "Identification of the Kinematic Parameters of a Robot Manipulator for Positional Accuracy Improvement", Computers in Engineering, August 1985.
64. Everett, L. J., "Solving Robot Kinematics Quickly Via the Finite Element Method", Proceedings of the Fifth IASTED International Symposium on Robotics and Automation, November 1984.
65. Everett, L. J., "Comparisons Based on an Energy Ratio of Accuracy and Frequency Content in an Euler and Timoshenko Finite Element", ASME paper 84-DET-47, October 1984.
66. Everett, L. J., Mooring, B. W., "An Educational Software Package for Planar Linkage Analysis", Computers in Engineering, August 1984.

Invited Lectures, Short Courses and Seminars

- 2014 "Essential Ethics for Leadership", 6th Systems Engineering Day, UTEP, April 24.
- 2013 "Essential Ethics for Leadership", 5th Systems Engineering Day, UTEP, April 25.
- 2012 "Math and Science Partnership (MSP) Program", NSF webinar, January.
- 2011-12 "Proposal Review Process" NSF webinar, April.
- 2011-12 "Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM) Program", NSF webinar, August.
- 2011 "Project Dissemination", NSF presentation, Two-Year College Awardee Conference Washington DC, June.
- 2011-12 "Proposal Writing Strategies and Reviewer Feedback" NSF webinar.
- 2011 "Project Evaluation", NSF webinar, April and November.
- 2011 "Overview of NSF Education R&D Programs with an Emphasis on the TUES Program", NSF webinar, October.
- 2012 "Evaluation of Education Development Projects", Frontiers in Education Conference Workshop, Rapid City, SD, October.
- 2012 "Mini Workshop on How People Learn", Frontiers in Education Conference Workshop, Rapid City, SD, October.
- 2011 "Selected NSF Program for Undergraduate Education in STEM", MatLab Developers Conference, June.
- 2008 "Using MSC Adams to Produce Learning Moments", Invited presentation at the Integration of Simulation Technology into the Engineering Curriculum (ISTEC 2008) conference at Cornell, July.
- 2007 "Using MSC Adams to Produce Learning Moments", Invited presentation at the MSC Developer Conference, Detroit Mi.

- 2007 Mechatronics and MEMS”, Keynote Address, First International Conference on Industrial, Mechatronics and Manufacturing Engineering, Juarez Mexico.
- 1999 “The Foundation Coalition”, Keynote Address, American Association of Physics Teachers, March, Tyler Texas.
- 1998 “Managing Curriculum Innovation”, Michigan Tech University, November
- 1997 “The Foundation Coalition at Texas A&M”, Clemson University, November
- 1997 “Industrial Research in the U.S., Panel Speaker”, Third International Mechanical Engineering Conference, Technological Institute of San Luis Potosi, October
- 1997 “Mechatronics”, Third International Mechanical Engineering Conference, Technological Institute of San Luis Potosi, October
- 1997 “Robotics, Automation and Mechatronics”, University of Guanajuato, October
- 1997 “The Foundation Coalition Sophomore Year at Texas A&M”, University of Wisconsin, Madison June
- 1996 “The Foundation Coalition Sophomore Year”, University of Texas at El Paso, El Paso Texas, October.
- 1996 “The Foundation Coalition Freshman and Sophomore Years”, Embry Riddle Aeronautical University, Daytona Beach Florida, October.
- 1996 “Designing the Foundation Coalition Curriculum”, Louisiana Tech University, November.
- 1995 “An Undergraduate Engineering Curriculum for the 21st Century”, The Inaugural Address in the Kelley Lectures in Engineering Education, College of Engineering, Oregon State University, April 5.
- 1995 “Design Creativity - Feedback Control and the RCC”, a guest lecture in Smart Product Design, Oregon State University, April 5.
- 1995-97 “Robotics”, Science, Technology and Youth Symposium, Texas A&M, March 15.
- 1992 “Research Topics In Robot Calibration”, Invited Lecture, ESPRIT CIM-Europe 92, May, Birmingham, UK.
- 1992 “Robot Calibration”, A PAM Short Course, June 7.
- 1990 “State of the Art in Robotics,” Invited Lecture, Texaco Technology Conference, September.
- 1988 “The Evolution of Robotics”, Invited Seminar at Cooper Union, April.
- 1988 “Tutorial on Manipulator Calibration - Implementation”, A Short Course at the IEEE International Conference on Robotics and Automation.

Significant Academic Accomplishments:

- 2001/7 Chairman of Mechanical and Industrial Engineering, I led the department through two ABET accreditation reviews. Paperwork was performed by a number of faculty.
- 1999 Associate Dean of Engineering at AUS. I led AUS faculty in implementing outcomes assessment and modern teaching pedagogy in their undergraduate courses.
- 1996-99 Dissemination Team Leader, Foundation Coalition. Responsible for disseminating information concerning the Foundation Coalition at TAMU and nationally. As a result of dissemination, there are several schools contemplating adoption of our curriculum. Three of these have established schedules for the adoption process.
- 1996 Upper Division Faculty Team Organizer, Foundation Coalition. Responsible for organizing the upper division (junior year) faculty team.
- 1995 Sophomore Faculty Team Leader, Foundation Coalition. Responsible for organizing and leading the team that developed the sophomore year for the Foundation Coalition. The number of faculty involved ranged from 5 to 10. Approximately 12 faculty person/months were expended on my activities. I was responsible for leading the team away from the older 20X paradigm toward the new curriculum divided more closely along traditional disciplines. As a result we have a “teachable” sophomore year with many faculty participants. I was instrumental in the widespread adoption of the FC sophomore year curriculum.
- 1994 Freshman Faculty Team Leader, Foundation Coalition. Responsible for organizing and leading the team that developed the freshman year for the Foundation Coalition. The number of faculty involved ranged from 9 to 20. Approximately 20 faculty person/months were expended on my team’s activities. As leader I formulated a vision

and mission for the team. I convinced the team that my vision was worthwhile and achievable, helped them develop a process to achieve the mission then slowly backed out of the picture.

Current Funded Projects:

- 8/13 – 8/14 “Desalting Seawater Using a Novel Heat Transfer Device”, \$35,000, Hydrologic.
- 9/09 – 9/14 “Cultivating a Culture of Technical Success and Leadership Excellence Among Hispanic Engineering Students: A Transformative Recruitment Model for Attracting High Achievers”, Co-PI with Pennathur PI, \$579,697, NSF, DUE 0849698.
- 10/09 – 10/14 “Center for Space Exploration Technology Research”, Co-PI with Choudhuri PI, \$5,000,000, NASA, NNH09ZNE003C.

Completed Research Projects:

- 8/09 – 8/12 “Understanding Planning and Execution Expertise Among Engineering Faculty: A Field Initiated Practice Based Framework and Model”, Co-Pi with Pennathur PI, \$499,758, NSF, DUE 0920635.
- 10/09 – 10/11 “Programmatic and Capacity Developments for an Energy Engineering Doctoral Program at UTEP”, PI, \$299,779, DoEd FIPSE, P116V090025.
- 1/10 – 6/11 “Building sustainable Renewable Energy Small Businesses in El Paso Texas”, PI subcontract from EPCC, \$131,000, Texas Workforce Commission, Award is being processed.
- 9/06 – 8/10 “Cultivating Authentic Discourse For the 2020 Engineer”, PI, \$499,928, NSF, DUE-0618861.
- 1/10 – 6/10 “Multiple Sensors and other Technological Solutions for US Customs & Border Protection (El Paso Sector)”, PI, \$453,364, Homeland Protection Institute, LTD, Task Order CDSR-09-0025.
- 5/08 – 5/10 “Adapting Quality Control Chart Analysis to Identifying Outliers in Redundant Inertial Navigation Data, Phase 2”, PI, US Navy Research Office, \$134,233.
- 9/07 – 12/08 “Ethical Leadership: Applied Decision & Ethical Theories – Workshop Series for Undergraduates and Faculty”, PI, \$50,000, NASA.
- 9/06 – 4/07 “Adapting Quality Control Chart Analysis to Identifying Outliers in Redundant Inertial Navigation Data”, PI, \$20,000, US Navy Research Office.
- 8/04 – 7/06 “Adapting Multiple Intelligence Principles to Increase the Number of Quality Hispanic Engineering Graduates”, PI, \$150,000, NSF, DUE-0411320.
- 9/06 – 9/07 NASA Administrator’s Fellowship Program, PI, \$164,281, NASA, Jet Propulsion Laboratory.
- 9/06 – 4/07 “Adapting Quality Control Chart Analysis to Identifying Outliers in Redundant Inertial Navigation Data”, PI, \$20,000, Office of Naval Research San Diego.
- 2004 GM Pace Program, Supports Collaborative Education Efforts. Grant valued at \$169,014,420.
- 2002 – 04 “Math Science Partnerships: Recruiting Engineering Undergraduate Students into the Teaching Profession”, Co-Investigator, \$29,300,000 Total funds, \$3,037,166 in College of Engineering, NSF.
- 2001 – 03 Enhancing Manufacturing Infrastructure in the El Paso-Juarez Border Region”, Co-PI, \$703,000 Total funds, SME Foundation.
- 1998-00 “Fellowships in Robotics, Training Science, Mobil Computing and High Performance Computing”, Co-PI with Volz, Amato, Welsh, \$756,660 total, \$55,024 to MEEN, Department of Education.
- 1998-00 “Disseminating the Sophomore Integrated Engineering Curriculum from Texas A&M University”, Co-Pi with C. Malave, \$140,000, Department of Education.
- 1998-00 “Training System and Subsystem Technology Characterization Toolkit”, Co-PI, \$126,500, State of Texas TATP, with R. Volz.
- 1994-99 “The Foundation Coalition”, The NSF, Curriculum Integration Team Leader & Dissemination Team Leader, in control of \$200,000/year for Curriculum Integration Activities, \$46,000/year for Dissemination.
- 1998-99 “Special Nuclear Material Handling, Simulation and Robotics Design”, Co-PI, \$120,000, Amarillo National Resource Center for Plutonium, with R. Volz, J. Trinkle.
- 1998-99 “Aircraft Flight Safety Life Enhancement Systems”, PI, \$69,572, Corpus Christi Army Depot.

- 1995-97 “Robotics, Automation, and Tele-Operation Program for Safe Handling and Long-Term Storage of Nuclear Components”, Co-PI, \$602,815 Total, \$52,465/year in my control, Amarillo National Resource Center for Plutonium.
- 1995-96 “Machine Tool Errors”, The PAM Program, \$27,000.
- 1994-95 “Automation for Crop Genome Analysis”, Interdisciplinary Research Initiatives Texas A&M, \$25,000, with John Mullet.
- 1990-94 “USARC/NASA Telerobotic Network: Specific Projects to Augment Network and Experimental Capabilities”, NASA-JSC, \$162,495, with Volz and Trinkle.
- 1991-94 “Long Range Targeting for Space Based Rendezvous”, NASA-JSC, \$86,946, with Redfield.
- 1992-93 “Self Calibrating AutoTRAC”, NASA-JSC, \$24,917.
- 1988-93 “On Site Robot Calibration Methodology”, Various Texas Industries, \$100,089.
- 1992-93 “SEI Planning and Augmentation”, NASA-JSC, \$17,505, with Volz and Trinkle.
- 1992-93 “Evaluation of the Shuttle Remote Manipulator”, NASA-JSC, \$48,066.
- 1991-92 “Performance Evaluation of a Visionless TRAC System”, NASA-JSC, \$36,000.
- 1991-92 “Dual Mode Sensing”, NASA-JSC, \$24,000.
- 1990-91 “Water Jet Catcher Design”, PAM, \$23,449.
- 1990-91 “Performance Evaluation of a TRAC System on Flexible Manipulators”, NASA-JSC, \$48,322.
- 1990-91 “Satellite Tracking and Acquisition with the Shuttle RMS”, NASA-JSC, \$75,000.
- 1989-90 “Analysis of a Laser Projection System”, PAM, \$12,000.
- 1989-90 “Local Sensory Control of Dexterous End Effectors”, NASA-JSC, \$68,354.
- 1987-88 “Automatic Calibration of Space Based Manipulators and Mechanisms”, NASA Johnson, \$65,700.
- 1986-87 “Dynamic Analysis of Wire Motion in Wire EDM Processes”, with R. Alexander, C. Hough, L. Cornwell, D. Bingham, O. Masory, AGIE Inc., \$90,000.
- 1987-88 “Development of a Machine Calibration Facility”, with M. Driels and B. Mooring, Institute for Manufacturing Systems, \$59,931.
- 1985-86 “Kinematic Parameter Identification for the Enterprise Robot”, IBM Incorporated, \$50,000.
- 1985-86 “Construction of a Compliant Robot Manipulator for Evaluating Control Schemes”, Research Incentive Fund, \$3,000.

Current PhD Students:

- 2009 Michael Everett, “Control of Autonomous Flying Vehicles”.

Current MS Students:

None

PhD Graduates:

- 2011 Ralph Jensen, “Structural System with Mechanistic Articulating Mode”, UTEP.
- 1999 Michael Wienen, “Assessing The Propensity To Produce Successful Designs”, August.
- 1994 Jennchen Tang, “System Parameter Analysis for Robot Manipulators with Position-Invariant Natural Frequencies”, August.
- 1994 Liang Eng Ong, “A New Objective Function for Robot Calibration”, May.
- 1992 Kil To Chong, PhD, Co-Chair, “Nonlinear Dynamics System Identification Using Recurrent Neural Networks”, December.
- 1992 James Lei, PhD, “An Experimental Comparison Of Robot Kinematic Calibration Methods”, May.
- 1991 Alan Barhorst, Ph.D., “On Modeling the Dynamics of Hybrid Parameter Multiple Body Mechanical Systems”, August.
- 1991 Adwin H. Suryohadiprojo, PhD, “Development and Study on the Generalized Geometric Model for Robot Calibration,” May.
- 1990 Gun-Woong Bae, PhD (co-chair), “Robust Impedance Control of Robot Manipulators,” December.

- 1989 Peter Ping Ling, PhD (co-chair), “Feature Extraction of Shrimp with Computer Vision,” December.
1989 Cheng-Yang Lin, PhD, “Kinematic Calibration for Closed-Loop Robots,” May.
1987 Tsing-Wong Hsu, PhD, “Robot Accuracy Improvement Through Kinematic Parameter Identification,” May.

MS Graduates:

- 2010 Javier Navar Payan.
2009 Xi Sun, “An Impedance Model Approach for Adaptive Cruise Control”, UTEP, August.
2009 Michael Everett, “Instability Corrective Control of Ground Based Maneuvers in Light Aircraft”, UTEP, August.
2009 Mario Ruiz, “Optimization of a Strapdown Inertial Navigation System”, UTEP, May.
2002 Wolf Carter, “Modeling a Hybrid Wind Turbine, Fuel Cell System”, UTEP, co-advisor.
2003 Adalgisa E. Lopez, “Model-Based Analysis of Control Strategies for a Variable Speed Wind Turbine”, UTEP
2000 Robert Houser: “Genetic Algorithms for Optimizing Training Systems”, May.
1999 Robert O’Neil: “Method Of Mechanism Synthesis By Hybrid Genetic Algorithm”, December.
1999 Chih-Chien Lai: “Error Analysis of Pose Measurement from Sonic Sensors Without Using Speed of Sound Information”, May.
1999 Sanjay Gopalakrishnan: “Effect of Primer Binding Probability on Amplified Misprimed DNA by Means of a Computational Study on the Polymerase Chain Reaction”, August.
1998 Brian Branum, “An Estimation Algorithm For 3-D Pose Measurement Using Redundant Ultrasonic Sensors”, December.
1998 Rakesh Ravuri, “A Generalized Recognition of Single Ended Contact Formations for Use in Automated Assembly Operations”, August.
1996 Marc Compere, “A Configuration And Analysis For Damping Oscillations In Flexible Robotic Arms Using Passive Elements”, December.
1996 Scott Burnett, “Obtaining Accurate Measurement Using Redundant Sensors”, May.
1995 Thom Ives, “Robot Calibration Without Scaling”, August.
1994 Jeff Pafford, “Open Loop Control For Six Degree Of Freedom Alignment Using Phase Plane Methods”, August.
1994 Michael Wienen, “Automating DNA processing”, May.
1993 Ravishankar Sreekantappa, “Parameter Estimation of a Robot Using the ARMAX Model”, August.
1990 Victor Hugo Pinto, MS (co-chair), “Kinematic Analysis of Pre-Grasp Configurations for Generalized Dexterous Hands,” December.
1989 Wesley Garrod, MS, “A.S.A.P. Automated Sequential Assembly Planner”, December.
1989 Alan Barhorst, M.S., “Fast Derivation of Dynamic Equations for Compliant Systems,” May.
1988 Adwin Suryhadiprojo, M.S., Non Thesis, May.
1988 Angelo Fancello, MS, “The Design and Modeling of a Compliant Manipulator,” August.
1988 Kevin Barry Shelburne, MS, “Variable Structure Control of a Flexible Manipulator,” December.
1985 Gerald Paul Roston, MS, “A Comparison of Lagrangian Inertia Coefficients for Robot Manipulator Dynamics to Examine Real-Time Applicability,” August.

Undergraduate Researchers:

- 2010 Jennifer Ramos, Derrek Landauer, UTEP
2009 Javier Motta, Jonathan Marshall, UTEP.
2007 – 2008 Hugo Pelaez, UTEP.
2006 Gerardo Vargas, UTEP.
2001 – 2003 Pedro Berges, UTEP.
1994 Russell Read, “Enhanced Passive Damping in a Flexible Robot”, May, Best Undergraduate Thesis in Systems.

Example Teaching Repertory:

Undergraduate: Introduction to Engineering I (AUS), Introduction to Engineering II (AUS), Statics and Dynamics (TAMU, AUS), Dynamics (TAMU, UTEP, AUS), Thermodynamics (TAMU), Understanding Systems

via Conservation (TAMU), Introduction to Robotics (TAMU, UTEP), Vibrations (TAMU, UTEP), Control Systems (TAMU, UTEP), Introduction to CAD/CAM (UTEP), Design for the Product Life-Cycle (UTEP), Circuits (UTEP), System Dynamics (UTEP), Mechatronics (UTEP)

Graduate: Mechanics of Robot Manipulators (TAMU, UTEP), Mechatronics (TAMU, UTEP), Dynamics (TAMU), Design for Manufacturing (UTEP), CAD (UTEP), CAM (UTEP), Space Craft Dynamics (UTEP)

Administrative Experience:

Department Chair, Mechanical and Industrial Engineering, UTEP: Acting Dean of Engineering, AUS: Associate Dean of Engineering, AUS (responsible for the academic program): Systems and Design Group Leader, TAMU: Faculty Senate, TAMU/UTEP

Professional Societies and Activities:

American Society of Mechanical Engineers (1978 to date)
Institute of Electrical and Electronics Engineers (1983 to date)
American Society of Engineering Education (1989 to date)
Society of Manufacturing Engineers (2002 – 2009)
Society of Automotive Engineers (2002 – 2009)
ASHRAE (2008 to date)
Pi Tau Sigma, Tau Beta Pi

My teaching Philosophy includes the following beliefs:

1. A liberal education is more valuable than specialized training.
2. Thinking skills are more important than “information”.
3. A broad based general engineering science program is the best foundation.
4. Hands on and activities are more important than lecture.
5. Personal interaction with faculty is critical.
6. Learning is a social event.

My Administration Philosophy includes the following beliefs:

1. Respect everyone.
2. Treat equals equally.
3. Expectations increase with rank and salary.
4. Distribute authority and hold people accountable.
5. Trust until evidence shows otherwise.
6. There is great value in diversity. Reward diverse talents equitably.
7. A successful administrator is known by the performance of those who are served.

Current Research Interests:

Design, Automation, Robotics, Manufacturing.